Study of The Level of Compliance and Side Effects of Covid-19 Vaccination at Pakuan Baru Community Health Center

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Abstract

Covid-19 vaccination is one of the government programs to prevent Covid-19 transmission. Pakuan Baru Community Health Center has implemented the vaccination program, but its implementation has not been optimal. This is because people are still reluctant to carry out vaccinations, people are reluctant to vaccinate because they have poor knowledge about the covid-19 vaccine and have anxiety about the side effects caused after doing the covid-19 vaccine. This study aims to determine the level of compliance and side effects of Covid-19 vaccination at the Pakuan Baru Community Health Center in South Jambi. This research is a quantitative study with a descriptive approach. The research was conducted in July 2022. The population of this study were people aged > 17 years in Pakuan Baru Village in 2022 totaling 7,607 people. The research sample of people aged> 17 years in Pakuan Baru Village with a sample size of 118 people. The sampling technique used purposive sampling technique. Data collection methods by interview using a questionnaire. Data were analyzed descriptively. The results showed that out of 118 respondents, 60.17% of respondents complied with the covid-19 vaccine, 56.78% of respondents had good knowledge and 42.22% of respondents had poor knowledge. Local side effects felt by respondents were bone pain and swelling. Systemic side effects experienced by respondents were fever, headache and malaise. Based on the results of the study, it was concluded that most respondents had a good level of knowledge, most of them had good knowledge about the covid-19 vaccine. Side effects after doing the covid-19 vaccine are bone pain, swelling, fever, headache and malaise. It is hoped that the Pakuan Baru Public Health Center will hold counseling on the Covid-19 Vaccine so as to increase public knowledge about the importance of the covid-19 vaccine so that they want to do the covid-19 vaccine.

Keywords: Covid-19 Vaccine, Compliance, Side Effects

INTRODUCTION

The Covid-19 pandemic in Indonesia began in early 2020 and is still ongoing. The number of Covid-19 cases in Indonesia is 6,056,017 people with 156,604 people who died (Kemenkes RI, 2022). To prevent covid-19 cases from increasing, the government has implemented a policy by providing covid-19 vaccination (Kemenkes RI, 2021; Keytimu et al., 2021). The aim of the covid-19 vaccine is to stimulate the immune system, reduce the risk of transmission, reduce the severe impact of the virus and achieve herd immunity (Kemenkes RI, 2021). The Indonesian government decided that there are seven vaccines used in Indonesia, the most widely used vaccines are Sinovac Biotech Ltd, AstraZeneca, Novavax Inc, Moderna, Sinopharm, Pfizer Inc and BioNtech (Pattinasarany et al., 2021).

Herd Immunity is an indirect protection from transmittable diseases that can work if a population has immunity, either through vaccines or immune systems that have been formed due to previous exposure. Herd Immunity can be achieved if the covid-19 vaccine coverage

reaches 70%. The covid-19 vaccine is given twice, the first dose and the second dose. Indonesian people who took the first dose of covid-19 vaccine were 47,478,168 people and the second dose was 20,673,079 people. When viewed from this data, the Indonesian population has not yet carried out the covid-19 vaccine. The data also shows that people who have done the first dose of the covid-19 vaccine do not all do the second dose of the covid-19 vaccine, indicating that the level of public compliance with the covid-19 vaccine is still low (Darmawan, 2022 ; Fauzi, 2023).

Research in Makassar showed that 59.5% of respondents were compliant in carrying out the covid-19 vaccination and 40.5% of respondents were not compliant in carrying out the covid-19 vaccine (Paradise et al., 2022). Research in Bandar Lampung showed that people who complied with the covid-19 vaccine were 61.70% and those who did not were 38.3% (Haya et al., 2022). The main factor causing people to be non-compliant with the covid-19 vaccine is lack of knowledge (Paradise et al., 2022; Pattinasarany et al., 2021). Meanwhile, a survey conducted by (Kemenkes RI, 2020) The results showed that the community did not vaccinate due to poor knowledge about vaccines and work factors. Research (Georges, 2021) shows that the reason people do not want to be vaccinated is because they still do not believe the effectiveness of vaccines to protect against covid-19 transmission. Meanwhile, according to WHO in (Paradise et al., 2022) that the factors that influence community compliance in carrying out vaccines are knowledge, side effects caused by vaccines, trust, the type of vaccine to be received.

People do not know that the covid-19 vaccine can prevent the transmission of covid-19 so they do not do the covid-19 vaccine (Barus et al., 2022). People do not know that the covid-19 vaccine aims to create active immunity against covid-19 infection, so that when infected by the covid-19 virus they will not experience pain or only experience mild pain and not become a source of transmission again. The government has tried to provide information to the community both through counseling conducted by the Puskesmas, through mass media, but because the education of the community is low, it is difficult for the community to capture the information they have received (Wulandari, 2021). People who are not compliant with the COVID-19 vaccine are also influenced by the side effects of the COVID-19 vaccine (Monayo, 2022).

From the data of the Central Statistics Agency (BPS) noted, as many as 20% of people have not done the Covid-19 vaccine for reasons of worrying about side effects and not believing in the effectiveness of the vaccine, as well as three factors that must be built to

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achieve the Covid-19 vaccination target, namely provision, access, health workers and community participation. (Kemenkes RI, 2021). Kemenkes RI (2020) stated that the covid-19 vaccine is safe to use but has mild to moderate side effects. These side effects include local side effects such as irritation, pain, redness and swelling. Systemic side effects include muscle pain (myalgia), fever and fatigue. These side effects are reversible and not harmful.

Some sources say that hesitation to vaccinate against Covid-19 is common in several countries, both developed and developing countries (Machingaidze & Charles, 2021). Research conducted (Tsaqoofah & Nurhidayati, 2022) Of the 256 people vaccinated with Astra Zeneca, local adverse events at the injection site were experienced by 69 (27%) people and systemic reactions were experienced by 229 people (89.4%). The most common symptom was fever in 92 (35.9%) people. Research (Sriyanah & Efendi, 2022) and (Muslim, 2020) stated that the Covid-19 vaccine has temporary local (e.g. pain, redness, swelling and induration) and systemic (e.g. fever, chills, myalgia and headache) reactivity.

Compliance with Covid-19 vaccination is also a problem in Jambi City, because if people are not compliant in carrying out the covid-19 vaccine, the City government cannot achieve the target set by the government. The achievement of the covid-19 vaccine in the first dose was 482,863 people while in the second dose it reached 389,991 participants (Darmawan, 2022). In order to achieve the predetermined target, the Jambi City government implemented a ball pick-up system, but there are people who are still reluctant to take the second dose of covid-19 vaccine (Nursalikah, 2022). One of the health centers in Jambi City that has a poor level of covid-19 vaccine compliance is the Pakuan Baru Health Center. The achievement of the implementation of the first dose of covid-19 vaccine at the Pakuan Baru Health Center was 11,599 people and 9,985 people who carried out the second dose of covid-19 vaccine (Tsaqoofah & Nurhidayati, 2022).

METHOD

This research is a quantitative research with a descriptive approach. The research was conducted in July 2022. The research variables were knowledge and side effects of the covid-19 vaccine. The study population was all people aged >17 years in Pakuan Baru Village totaling 7,607 people. The research sample was people aged >17 years in Pakuan Baru Village, Jambi City, totaling 118 people. Samples were taken using a presumptive sampling technique. Sample inclusion criteria are people who live in Pakuan Baru Village, aged >17 years, can communicate well. sample exclusion criteria are people who have not received

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vaccines, not willing to be respondents. The research instrument was a closed questionnaire. The questionnaire was made by the researcher referring to the existing theory and before being used in data collection the questionnaire was tested for validity in Tambak Sari Village against 30 respondents. Data collection techniques by interview using a questionnaire. Data were analyzed univariately by looking at the frequency distribution in tabular form.

Table 1. Questionnaire Validity Test Results

Variable	Question	r Count	r Table	Description
Level of knowledge of the Covid-19 vaccine	X1_1	0.000	0.05	Valid
	X1_2	0.000	0.05	Valid
	X1_3	0.001	0.05	Valid
	X1_4	0.000	0.05	Valid
	X1_5	0.011	0.05	Valid
Local Covid-19 vaccine side effects	X1_1	0.011	0.05	Valid
	X1_2	0.000	0.05	Valid
	X1_3	0.000	0.05	Valid
	X1_4	0.001	0.05	Valid
	X1_5	0.000	0.05	Valid
Systematic Covid-19 vaccine side effects	X1_1	0.000	0.05	Valid
	X1_2	0.000	0.05	Valid
	X1_3	0.001	0.05	Valid
	X1_4	0.000	0.05	Valid
	X1_5	0.011	0.05	Valid

Table 2. Reliability Test Result

Number of Questions	rhitung	rtabel	Description
5	0.750	0.361	Reliabel
5	0.685	0.361	Reliabel
5	0.834	0.361	Reliabel

RESULTS

Of the 118 respondents, the frequency distribution of ages 56 to 65 years was 38 (32.2%). The most respondents were female, namely 55.9%, the most education was high school graduates as much as 44.9%. Most of the respondents' jobs as housewives amounted to 42.4% (Table 3).

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Table 3. Respondent Characteristics

Characteristics	Frequency	%
Age		
17-25 (Late teens)	6	5.1
26-35 (Early adulthood)	19	16.1
36-45 (Late Adulthood)	31	26.3
46-55 (Early elderly)	24	20.3
56-65 (Late elderly)	38	32.2
Gender		
Male	52	44.1
Female	66	55.9
Education		
Elementary School	7	5.9
Junior High School	25	21.2
Senior High School	53	44.9
Diploma III	14	11.9
Bachelor	19	16.1
Work		
Students	5	4.2
Civil Servant	17	14.4
Self-employed	38	32.2
Housewife	50	42.4
Retired	2	1.7
Honorer	1	0.8
Workshop	1	0.8
Laborer	1	0.8
Ojek	1	0.8
Driver	2	1.7

The results showed that respondents who had a good level of compliance were 60.17%, respondents who had good knowledge were 56.78% (Table 4).

Table 4. Frequency Distribution of Compliance and Knowledge about Covid-19 Vaccine

Variable	Frequency	%
Compliance		
Good	71	60.1
Poor	47	39.9
Knowledge		
Good	67	56.78
Poor	51	42.22

In detail the results of respondents' answers to questions about knowledge and side effects of the covid-19 vaccine are illustrated in the following table:

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Table 5. Frequency Distribution of Respondents' Knowledge about Covid-19 Vaccine

No	Question	Correct		False	
		n	%	n	%
1	Causes of covid-19	110	93.20	8	6.00
2	How the covid-19 vaccine works	118	100.00	0	0.00
3	What is given when the covid-19 vaccine	10	8.40	108	91.60
4	Covid-19 vaccine has a high level of safety	106	89.80	12	10.20
5	The halalness of the covid-19 vaccine	107	90.70	11	9.30

Based on the table above, it shows that most respondents do not know about the drugs given after the covid-19 vaccine.

Table 6. Frequency Distribution of Side Effects of Covid-19 Vaccines

No	Question	Correct		False	
		n	%	n	%
	Local Side Effects				
1	Bone pain after the first vaccine	104	88.10	14	11.90
2	Bone pain after the second vaccine	34	28.80	84	71.20
3	Swelling at the injection site	30	25.40	88	74.60
	Systemic Side Effects				
1	Having a fever	69	58.50	49	41.50
2	Experiencing dizziness	59	50.00	59	50.00
3	No Appetite	44	37.30	74	62.70
4	Fatigue	57	48.30	61	51.70

Based on table 6, it is known that the local side effects experienced by respondents after taking the first dose of covid-19 vaccine were bone pain at 88.1%, while the systematic side effects felt by respondents after taking the covid-19 vaccine were fever (58.5%), dizziness (50.0%), fatigue (48.3%) and no appetite (37.3%).

DISCUSSION

Based on the results of the study, it was found that most respondents had good compliance in carrying out the covid-19 vaccine, namely 60.1% and respondents who had poor compliance were 39.9%. Respondents who have good compliance because they have good awareness in preventing covid-19 disease. They realize that they are vulnerable to transmission of covid-19 disease, so that they are not easily infected with covid-19 and do not transmit it to other family members, so they do the covid-19 vaccine. The good awareness they have because they have good knowledge about the importance of the covid-

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19 vaccine, this can be seen from the results of the knowledge analysis showing that 56.78% of respondents have good knowledge about the covid-19 vaccine. From the respondents' answers to the knowledge questionnaire, it shows that 93.2% of respondents already know the cause of covid-19, all respondents know how the covid-19 vaccine works, 90.7% of respondents know the halalness of the covid-19 vaccine and 89.9% of respondents know that the covid-19 vaccine has a high level of safety. Respondents know this because they get information from health center officers, mass media and electronic media.

The results of the study also found that there were still respondents who were not compliant in carrying out the covid-19 vaccine, namely 39.9%. Respondents were not compliant in carrying out the vaccine due to anxiety about the covid-19 vaccine. Respondents received information from their friends that they were sick after getting the covid-19 vaccine, some experienced paralysis after getting the covid-19 vaccine, and some even died after getting the covid-19 vaccine. This raises concerns by respondents so that they are not compliant with the covid-19 vaccine. Respondents have poor compliance in carrying out the covid-19 vaccine related to work, the workplace does not require respondents to vaccinate so they do not carry out the covid-19 vaccine. Low knowledge also affects respondents' compliance in carrying out the covid-19 vaccine. Respondents who do not know about vaccines have poor behavior in carrying out the covid-19 vaccine. The results of the study found that there were still 42.22% of respondents who had poor knowledge. when viewed from the respondents' answers to the knowledge questions, it shows that 91.6% of respondents did not know what to consume after doing the covid-19 vaccine. These results indicate that respondents have poor or low knowledge, this is because the average respondent's education is high school graduates as many as 50 respondents with a percentage of 44.9%. The level of education affects a person's knowledge, which means that there is a relationship between the level of education and knowledge.

Research conducted in Medan Sunggal District shows that compliance with covid-19 vaccination is related to knowledge. People who have low knowledge have more poor compliance when compared to people who have good knowledge (Tamita et al., 2022). Research in Wonosobo Regency also found the same thing that people who have low knowledge are at higher risk of not complying with the covid-19 vaccine when compared to people who have high knowledge (Purnamasari, 2020). Research in Dukuh Manunggal Village, Surabaya City also found that knowledge is associated with willingness to vaccinate against COVID-19(Febriyanti et al., 2021). According to (Sugiarto, 2019) stated

that information is related to behavior, respondents who get information have good behavior.

The results showed that local side effects after receiving the covid-19 vaccine felt by respondents were in the form of bone pain and swelling. The results of this study are in line with research conducted by (Babamahmoodi et al., 2021) There are local side effects, namely swelling and pain when performing the Covid-19 vaccine with a value of P = 0.022. But this result is not in line with research (Riad et al., 2021) which found that there was no relationship between injection dose and swelling side effects with a P value = 0.791.

Local side effects such as bone pain and swelling are symptoms that occur during Covid-19 vaccination. The Covid-19 vaccine is an intramuscular injection, which means it is injected into the muscle. The vaccine can trigger inflammation at the injection site, which indicates that the vaccine is starting to activate immunity. Pain can occur because there is a small injection site injury that occurs after having a vaccine injection. This is when inflammation occurs, which is when our body will use several mechanisms to fight infection. This inflammation causes localized side effects of redness and swelling (Korim, 2021).

The results of research on the systemic side effects of the covid-19 vaccine found that after the respondent did the covid-19 vaccine, the respondent experienced systemic side effects in the form of fever, headache and not feeling well were symptoms that occurred during the Covid-19 vaccination. The cause of systemic side effects is because after the Covid-19 vaccine, inflammation is triggered by innate immune activation from pattern recognition receptors (PRRs) including Toll-like receptors (TLRs) that recognize and bind to antigens (green circles in skeletal muscle) and potential immune enhancers (purple circles in skeletal muscle) present in the vaccine formulation.

Resident immune cells, mast cells, monocytes and macrophages are activated within minutes of injection and release soluble factors (proinflammatory cytokines, chemokines, complement cascade effectors) and vasodilators, which allow the recruitment of cells from the blood but also lead to the development of redness and swelling symptoms. These newly recruited immune cells, mainly consisting of neutrophils, monocytes and T lymphocytes, also contribute to the sensation of pain by releasing soluble factors, such as cytokines and prostaglandins that can interact directly with local sensory receptors called nociceptors and cause pain, via the fast nerve route if a threshold is reached. Once produced, cytokines act both locally in an autocrine and paracrine manner, and can act systemically on distant

organs, leading to the production of C-reactive protein and other acute phase proteins by the liver. Multiple immune signaling pathways to the brain can propagate the inflammatory response to the central nervous system after peripheral activation of the innate immune system (slow humoral route), leading to the development of fever, sick behavior and other systemic side effects (Hervé et al., 2019).

Research (Nisak et al., 2022) stated that the side effects experienced by someone after doing the covid-19 vaccine include drowsiness, hunger, muscle pain, runny nose/cough, weakness, swelling, sore throat, headache, backache, fever, abdominal pain, joint pain, itching and chills. After being given the covid-19 vaccine in dose 1, respondents experienced KIPI events such as pain at the injection site (39%), while after being given the covid-19 vaccine dose 2, they experienced KIPI events, namely drowsiness (17%). According to (Yuliana, 2020) Post-vaccination adverse events in Indonesia only show mild and harmless symptoms. The KIPI reports received by Komnas are always feeling hungry, nausea, fever, weakness, redness, pain at the injection site, and soreness.

CONCLUSIONS

Based on the results of the study, it can be concluded that most respondents have a good level of compliance, most respondents have good knowledge. Local side effects after vaccination are bone pain and swelling, while seietmic side effects are fever, headache and malaise.

It is hoped that the Puskesmas will conduct counseling about the Covid-19 Vaccine and its side effects.

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REFERENCE

Babamahmoodi, F., Saeedi, M., Kordi, S., Akbari, Z., Azordeh, M., Ahangarkani, F., & Alikhani, A. (2021). Side Effects And Immunogenicity Following Administration Of The Sputnik V COVID-19 Vaccine In Health Care Workers In Iran. *Scientific Reports*, *11*(1).

Barus, M., Simbolon, P., & Panjaitan, E. S. U. (2022). GambaranPengetahuanMasyarakatTentangVaksinasiCovid-19. *CITRA DELIMA : Jurnal Ilmiah STIKES Citra Delima Bangka Belitung*, *6*(2).

Darmawan, A. D. (2022). *Capaian Vaksinasi di Jambi Hingga Minggu, 8 Mei 2022 Sudah 96,28 Persen dari Target*.

Fauzi, Z. I., Hidayah, N., Hilda, H., Masrah, M., & Nababan, J. P. (2023). Knowledge of Pharmacy Department Students Poltekkes Kemenkes Medan About Vaccination Covid-19. *Contagion : Scientific Periodical of Public Health and Coastal Health*, *5*(1), 175–187.

Febriyanti, N., Choliq, M., & Mukti, A. (2021). Hubungan Tingkat Pengetahuan dan Kesediaan Vaksinasi Covid-19 Pada Warga Kelurahan Dukuh Menanggal Kota Surabaya. *Semin Nas Has Ris Dan Pengabdi*, *3*(1), 1–7.

Georges, N. D. (2021). Analisis Asumsi Rekayasa Dibalik Pandemi Covid-19, Vaksin Covid-19 Terkait Microchip 666 dan Dajjal. *Jurnal Informasi Dan Pemodelan Kimia*, *1*(3).

Haya, T. N. A. F., Amirus, K., & Dalfian, D. (2022). Hubungan Tingkat Pengetahuan Dan Pendidikan Terhadap Kepatuhan Divaksinasi Covid-19 Pada Masyarakat Wilayah Kerja Puskesmas Rajabasa Indah Bandar Lampung. *MANUJU: MALAHAYATI NURSING JOURNAL*, *4*(7), 1645–1656.

Hervé, C., Laupèze, B., Del Giudice, G., Didierlaurent, A., & Silva, T. Da. (2019). *The How's And What's Of Vaccine Reactogenicity*.

Kemenkes RI. (2020). *Peraturan Menteri Kesehatan Republik Indonesia No 84 Tahun 2020 Tentang Pelaksanaan Vaksinisasi Dalam Rangka Penanggulangan*. Kementerian Kesehatan RI.

Kemenkes RI. (2021). *Program Vaksinasi Covid-19 Mulai Dilakukan, Presiden Orang Pertama Penerima Suntikan Vaksin Covid-1*. Kemenkes RI.

Kemenkes RI. (2022). *Data Kasus Covid-19 di Indonesia Tahun 2022*. Kementerian Kesehatan RI.

Keytimu, Y., Nelista, Y., Djiona, M., Parera, T., & Funan, F. (2021). osialisasi Efek Samping Vaksin terhadap Pengetahuan Penerima Vaksin di Puskesmas Kewapante. *Jurnal Peduli Masyarakat*, *3*(3).

Korim, M. (2021). *Why Does the COVID-19 Vaccine Cause a Sore Arm?*

Machingaidze, S., & Charles, S. (2021). Understanding COVID-19 Vaccine Hesitancy. *Journal Nature Medicine*, *27*, 1338–1339.

Monayo, E. R. (2022). Pengetahuan Dan Minat Vaksinasi Covid-19 Masyarakat di Kota Gorontalo dan Kabupaten Bone Bolango. *Jambura Nurisng Journal*, *4*(1).

Muslim, A. (2020). Covid-19 : Efektivitas Dan Keamanan Vaksin. *Jurnal Bagus*, *2*(1), 402–406.

Nisak, L., Suparningtyas, J. F., & Kuncoro, H. (2022). Studi Evaluasi Efek Samping Penggunaan Vaksin COVID-19 Terhadap Masyarakat Sebatik Timur. *Proceeding of Mulawarman Pharmaceuticals Conferences*, 138–144.

Nursalikah, A. (2022). *Jambi Targetkan Capaian Vaksinasi 100 Persen pada Maret 2022*.

Paradise, C. P., Patimah, S., & Multazam, A. M. (2022). Faktor Yang Mempengaruhi Kepatuhan Vaksinasi COVID 19 Pada Karyawan Di Rumah Sakit Bersalin Paradise. *Journal of Muslim Community Health (JMCH)*, *3*(4), 143–152.

Pattinasarany, C. G., Matauseja, Putri, H., & Febrian, D. (2021). Kajian Kepatuhan Vaksinasi Covid-19 Berdasarkan Jenis Pekerjaan Masyarakat: Strategi Edukasi Tingkatkan Vaksinasi Di Kelurahan Lateri Kota Ambon. *Jurnal Karya Abdi*, *5*(3).

Purnamasari, I. (2020). Tingkat Pengetahuan dan Perilaku Masyarakat Kabupaten Wonosobo Tentang COVID-19. *J Ilm Kesehat FIKES UNSIQ Wonosobo*, *3*(1).

Riad, A., Pokorná, A., Attia, S., Klugarová, J., Koščík, M., & Klugar, M. (2021). Prevalence of COVID-19 Vaccine Side Effects among Healthcare Workers in the Czech Republic. *Journal of Clinical Medicine*, *10*(7).

Sriyanah, N., & Efendi, S. (2022). Efek Samping Pemberian Vaksin Covid-19 Pada Anak dan Dewasa A Literature Review. *Jurnal Keperawatan*, *14*(3).

Sugiarto, S. (2019). Hubungan Penggunaan Kondom Dan Informasi Dengan Pencegahan HIV/AIDS Pada Laki Seks Laki (LSL). *Jurnal Ilmiah Ilmu Kesehatan: Wawasan Kesehatan*. https://doi.org/10.33485/jiik-wk.v6i1.157

Tamita, K., Hasibuan, H., Aktalina, L., & Rifiza, C. (2022). Hubungan Tingkat Pengetahuan dengan Kepatuhan Vaksin Covid-19 pada Lansia di Kelurahan babura Kecamatan Sunggal. *Jurnal Kedokteran Ibnu Nafis*, *11*(1).

Tsaqoofah, I. J., & Nurhidayati, I. N. (2022). Tingkat Kepatuhan Protokol Kesehatan dan CakupanVaksinasi pada Mahasiswa UMS yang Terpapar Covid-19. *Jurnal Pendidikan Tambusai*, *6*(1).

Wulandari, T. U. (2021). *Tingkat Pengetahuan dan Sikap Penerimaan Masyarakat Terhadap Vaksin Covid-19 di Jawa Tengah*. Universitas Islam Sultan Agung Semarang.

Yuliana. (2020). Corona Virus Disease (COVID19); Sebuah Tinjauan Literatur. *Wellness and Healthy Magazine*, *2*(1), 187–192.